

DIAGRAMMATIC SIGN STUDY

FINAL REPORT

by

A. W. Roberts

prepared by

Bureau of Safety and Traffic  
Division of Research and Evaluation  
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## ABSTRACT

A significant reduction in the rates of unusual maneuvers in front of a left-hand exit was found after diagrammatic signs were installed at the interchange of northbound I-287 with U.S. 22. A mobile television surveillance unit was used to collect the data. The volumes, as well as types of unusual maneuvers are summarized in the report by date, hour and number of axles. Studies were made of original signs, standardized signs, diagrammatic signs, and diagrammatic signs with lane lines.

The use of diagrammatic signs at interchanges with left-hand exits shows good potential from both a safety and a logical viewpoint. The addition of lane lines on the diagrams indicates more benefit.

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# DIAGRAMMATIC SIGN STUDY

## SUMMARY

Diagrammatic signs offer inherent improvements in road sign communication. Motorists are provided with more complete exit choice information with no addition of words.

The findings of this study show an improvement in exiting maneuvers after diagrammatic signs were installed as well as after lane lines were added to the diagrams on northbound I-287 at the left-hand exit to westbound U.S. 22.

It is recommended that further evaluation of diagrammatic signing be carried out for a variety of exit configurations and for a whole series of interchanges. Serious consideration should be made that new standards include the diagrammatic concept.

It is proposed that New Jersey make a more extensive application and study of diagrammatic signs on I-287.



## INTRODUCTION

The use of Diagrammatic Signs has been suggested as a method to reduce confusion at exits on the Interstate Highway System. In 1968 the "Blatnik Committee"<sup>1</sup> staff took 16mm movies and 35mm stills of traffic approaching various exits at the interchange of I-95 and I-495 in Washington, D. C. The films show a large number of vehicles swerve, stop, back, etc., in the exit gore areas. Among the Committee members, it was generally assumed that the erratic behavior found was a result of confusion and that inadequate signing and/or road geometry were part of the problem. The erratic or unusual maneuvers shown in the films were considered to be symptomatic of both a hazardous situation and an annoyance to many motorists. The frequency of these maneuvers, it was felt, might be reduced by the installation of signs that will more adequately serve the needs of unfamiliar as well as familiar motorists.

The concept of using diagrams in signs is not new. The British have installed several signs of this type with apparent success. Symbolic warning signs have been used extensively in the United States and other countries.

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<sup>1</sup> The Blatnik Committee is a short name for the "Special Subcommittee on the Federal Aid Highway Program of the Committee on Public Works of the House of Representatives, Highway Safety, Design and Operations: Freeway Signing and Related Geometrics, 90-39."

The FHWA's Office of Traffic Engineering had diagrammatic signs installed at the I-95 and I-495 interchange in Washington, D. C., and the engineers compared the "before" and "after" frequency of unusual maneuvers. They concluded that the comparison was not valid because of a difference in the proportion of "unfamiliar" motorists between the two study periods.

The Federal Highway Administration requested that states carry out projects similar to theirs for a more thorough evaluation of freeway-type diagrammatics. In cooperation with the FHWA, the Division of Research and Evaluation of New Jersey's Department of Transportation designed and had installed a system of these signs on northbound I-287 at U.S. 22 in north-central New Jersey.

#### SITE SELECTION

The interchange of northbound I-287 with U.S. 22 was chosen from a careful investigation of six interchanges on New Jersey's Interstate Highway System. Aerial and on-ground photographs, as well as construction plans, were used in the investigation. Two interchanges were chosen for more detailed investigation. They were unique in that they both involved a left-hand exit. The interchange of northbound I-287 with U.S. 22 was chosen because its geometric design was more conventional. At this site the drivers exiting to westbound U.S. 22 are provided with two added, extra-long, high speed deceleration lanes.

Interstate Route 287 is a particularly important location for study. When it is completed, it will connect with an Interstate system encircling New York City as I-495 encircles Washington, D. C.

## STUDY SITE LOCATION AND DESCRIPTION

The chosen site is located in Bridgewater Township, Somerset County, approximately ten miles northwest of New Brunswick. There are four interchanges in the four miles that precede the study site, the last of which is less than one-half mile away. On the northbound roadway, three lanes continue through. One lane is added on the right for the eastbound exit. Two lanes are added on the left for the westbound exit. These and other study site characteristics may be seen in schematic form in Figure 1. The approach to the first overhead sign (sign No. 2) is on a  $1\text{-}1/2^\circ$  right-hand curve. From that point to the last sign (sign No. 5), the road is tangent with a  $2\text{-}1/2\%$  positive grade. The road then curves to the left on a  $1\text{-}1/2^\circ$  curve beyond the last sign and maintains a slight positive grade.

## PROCEDURE

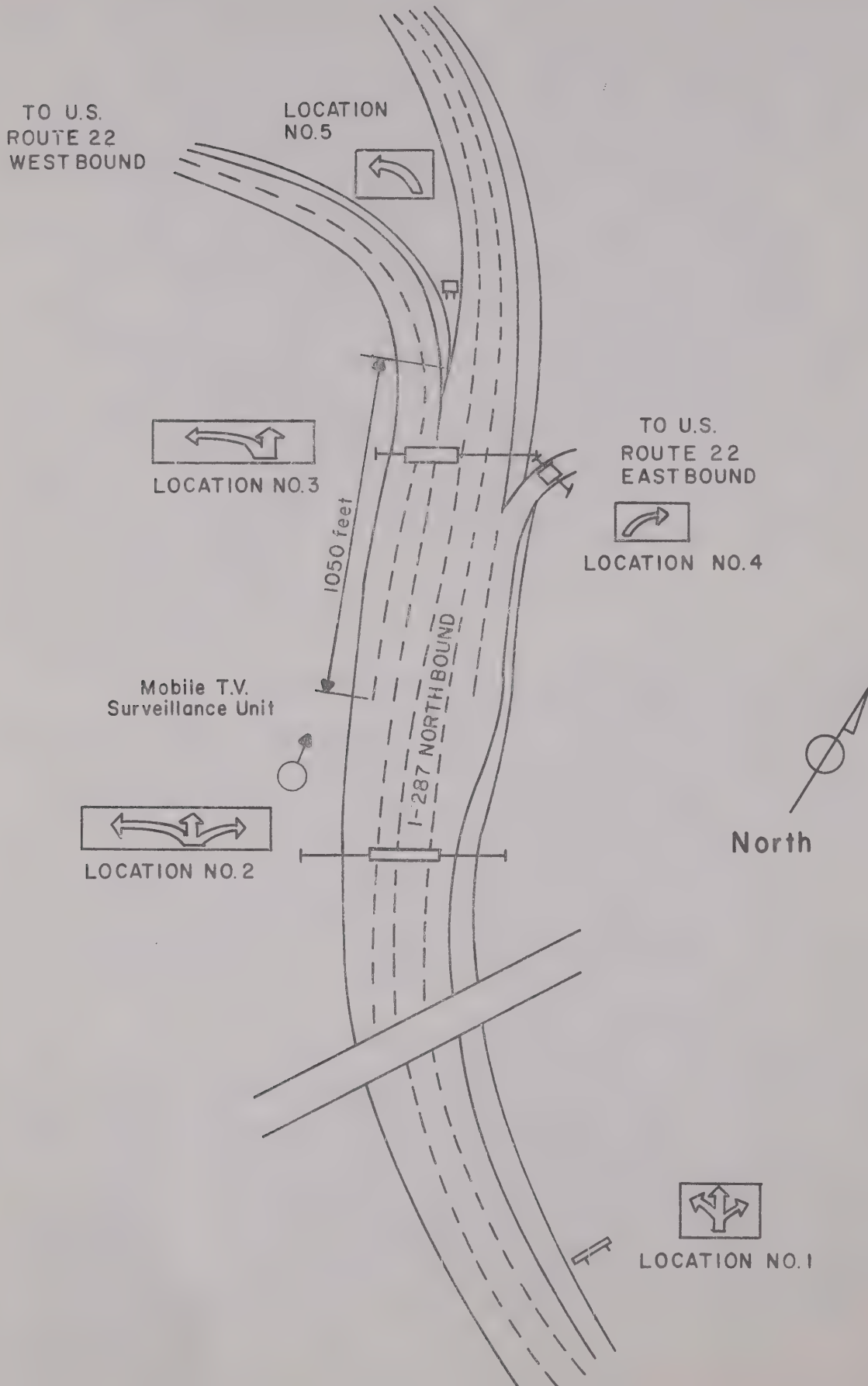
### Study and Sign Revision Sequence

The signs for the interchange of northbound I-287 at U.S. 22 were altered or changed on three separate occasions (refer to Appendix I). The changes were made as follows:

1. Modification to a more standard form that is both in conformance with the Interstate Sign Manual (3) and compatible with the diagrammatic sign plans.
2. Replacement with new diagrammatic signs.
3. Addition of lane lines within the diagrams.

The timing of sign changes and before and after studies was a major consideration in planning. The span of time between studies should not be so long that the proportion of unfamiliar drivers would be likely to change due to unknown causes. The

# FIG.1 STUDY SITE CHARACTERISTICS



span of time should not be so short between the sign change and the after study that familiar drivers would not have an adequate chance to get used to the new signs. It was decided that at least a week should be planned between the change and the after study, while no more than two months should be allowed between the before and after studies.

Five separate studies were made of the sign changes. All the conditions of signing were studied, and each was compared with the previous condition. Studies were made in the following sequence, as shown in Figure 2, "Study Activity - Time Sequence."

1. Original signs vs. modified signs. The original signs were studied in July and August of 1969; the signs were modified in September and then studied in October. The comparison made was not a main objective, but was included for informational purposes.

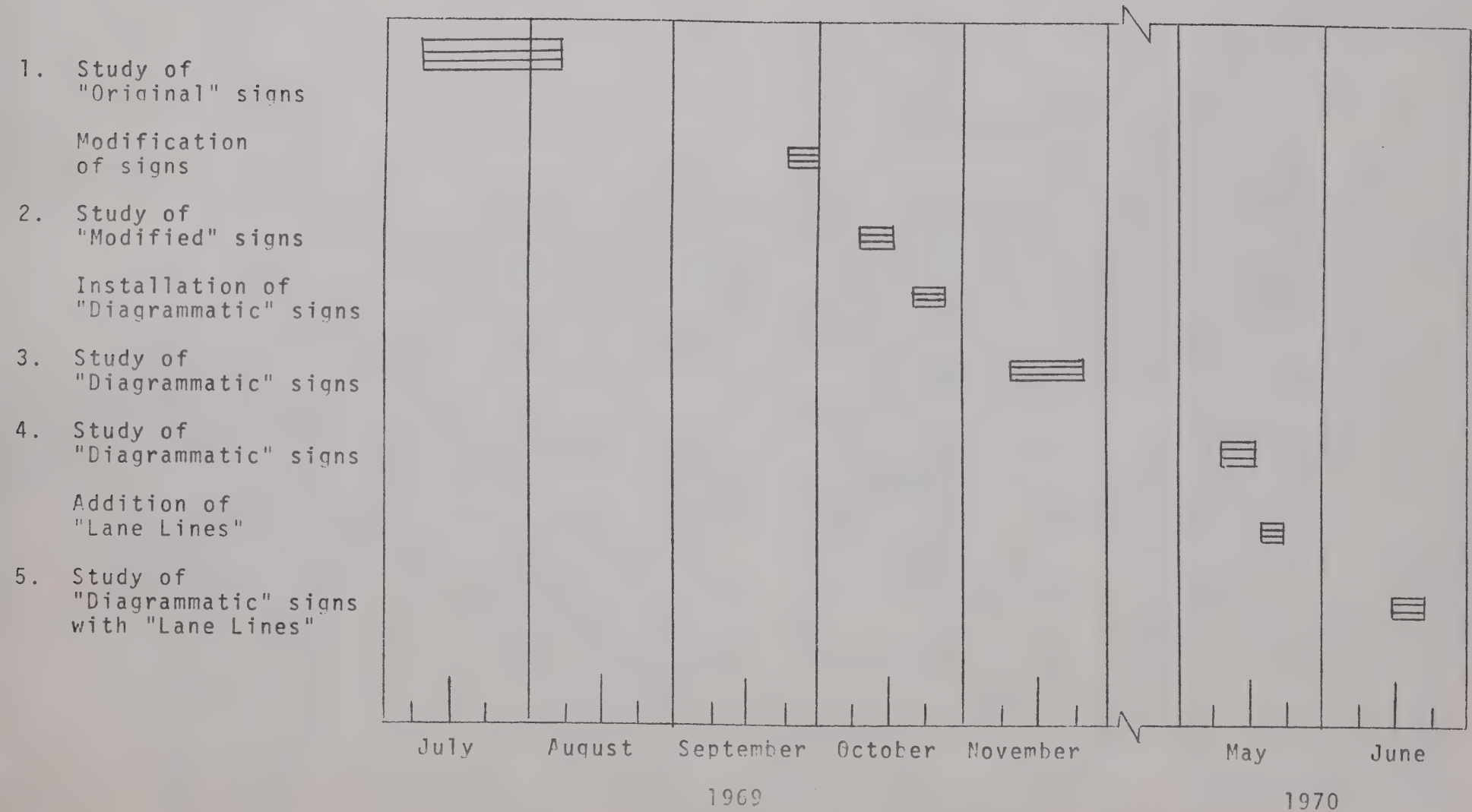
2. Modified signs vs. diagrammatic signs. Diagrammatic signs were installed in late October of 1969, and the data taken of modified signs in early October was compared with data from a study of diagrammatic signs made in November.

3. Diagrammatic signs in two seasons. Diagrammatic signs were studied in early May of 1970 as well as November of 1969. The data were compared to measure the difference in the rate of unusual maneuvers with no changes in signing.

4. Diagrammatic signs vs. diagrammatic signs with lane lines. Lane lines were added to the diagrams in late May of 1970. The data from a study made in late June was compared with the data taken in May.

Figure 2

Study Activity - Time Sequence



### Study Procedure

In all studies the number of unusual maneuvers at the exit gore from northbound I-287 to westbound U.S. 22 were counted. The behavior of the traffic at the exit to eastbound U.S. 22 was not studied since the volume of traffic using the eastbound exit was too small.

Automatic traffic counters and TV recorders were used to record the data. Streeter-Amet hourly counters were placed to record the through volume and the left-hand exit volume. The counters were placed at considerable distances past the exit gore so that they were not readily noticed by approaching drivers. The traffic approaching the exit gore was recorded on video tapes by means of a Mobile TV Surveillance Unit (Figure 3). The camera was adjusted to record all lanes from 400 feet upstream of the physical gore to the points beyond it. An audio band on the tapes recorded the time as announced every five minutes. Separate tapes recorded each hour of traffic. The study was limited to afternoon traffic.

The tapes were played back in the office under well-supervised conditions. A fifteen-minute count of vehicles by number of axles was made for each hour. All unusual maneuvers that took place were noted and counted by:

1. Hour (2-3 p.m., 3-4 p.m., etc),
2. Movement (exit or thru),
3. Number of axles (2 or over 2), and
4. Initial and final lanes used.

The unusual maneuver rates are summarized in Appendix II.



Figure 3  
Mobile TV Surveillance Unit

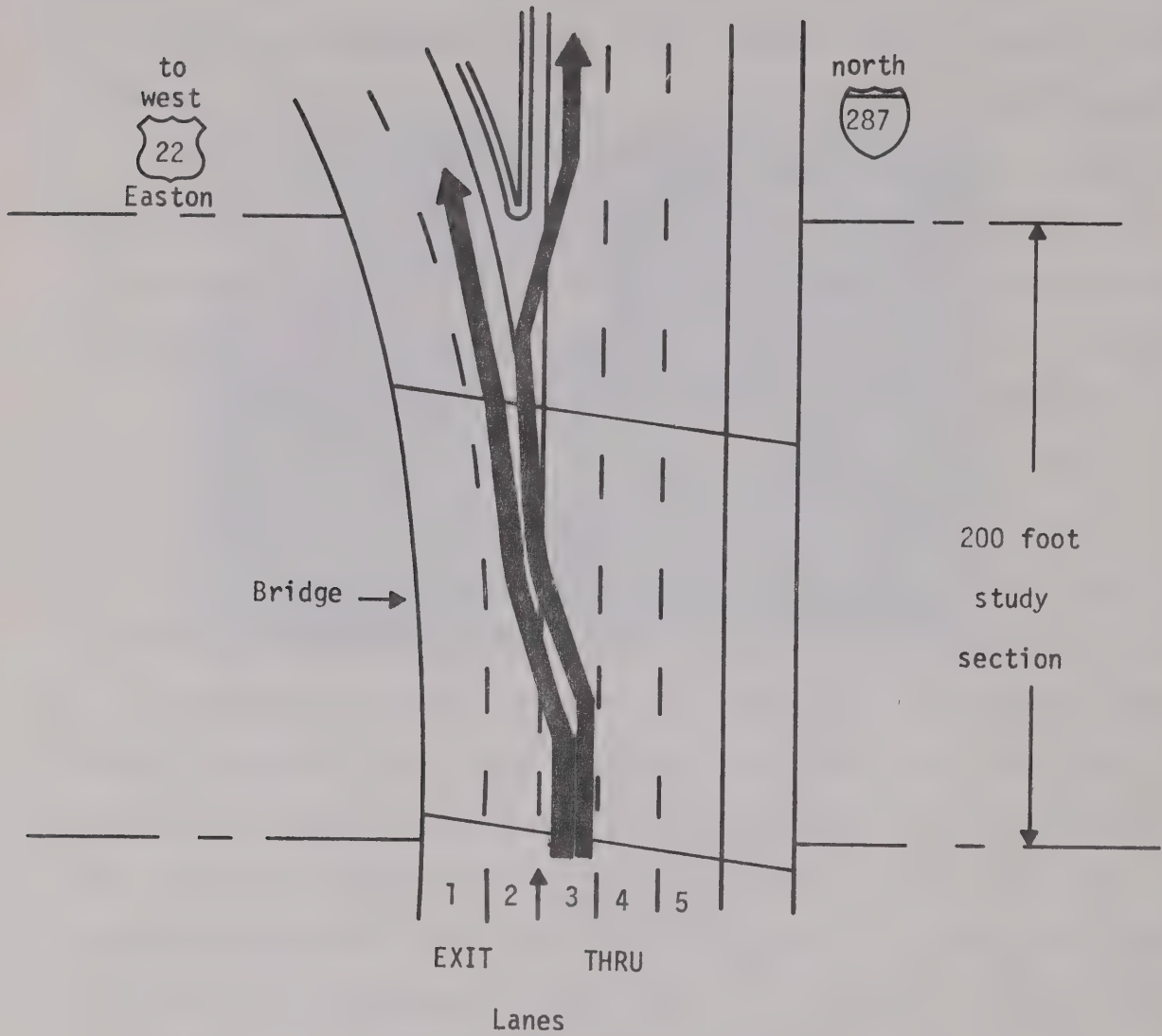
### Unusual Maneuvers Definition

An unusual maneuver, as defined for this study, includes any stopping, backing or crossing the gore line in the section of northbound I-287 between the physical gore and a point 200 feet upstream of it (Figure 4). The gore line in this case includes both the solid striped gore that is placed in front of the physical gore and the dashed line that continues upstream from the solid stripe. No more than one unusual maneuver was counted for any one vehicle. Some examples of unusual maneuvers are illustrated in Figure 4.

### Data Correction

Several corrections to hourly data were necessary. Corrections for counter clock errors were made to the nearest 60th of a unit on a linear basis. Some missing "thru" volumes were estimated on the basis of a linear regression analysis. The data for the regression was obtained from a study of volumes from prior weeks that were equivalent in day of week and time of day. The equation,  $V = \frac{C}{X + 1.56y}$ , was used to estimate the number of vehicles, given the machine counts (C) and the sample proportions of two axle (X) and three or more axle (y) vehicles in each hour. The constant 1.56 is based upon a study of axle distributions made from earlier TV recordings from the same location. In cases where the television apparatus failed to yield a recording for short periods of time, the periods of failure were totaled for a given hour and a linear correction was made to the unusual maneuver frequency totals.

Figure 4 Identification of Unusual Maneuvers



### Data Analysis

Comparisons by hour of the exit, 2-axle rates were the only ones made because these categories consistently represented the vast majority of unusual maneuvers that occurred at the gore.

The Wilcoxon matched pairs signed-ranks method was used to test the significance of differences found in the comparisons (refer to p. 361 of reference 2). The pairs were matched by hour, day, and number of axles. The following formula was used:

$$Z = \frac{T - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

T = the smallest sum of ranks  
having similar signs

N = the number of qualified ranks

Z = the normal standard deviation

### RESULTS

#### Original Signs vs. Modified Signs

No significant difference in the rates of unusual maneuvers was found at the 95% level of confidence after the signs were modified.

A significantly lower rate could have been expected, with the modified signs, if it can be accepted that October will have a lower proportion of unfamiliar motorists than July or August.

#### Modified Signs vs. Diagrammatic Signs

A significant reduction at the 95% level of confidence in the rates of unusual maneuvers was found after diagrammatic signs were installed.

The specific changes made on the signs were (a) the exchange of diagrammatic with conventional arrows and subsequent repositioning of messages, and (b) the addition of one U.S. Route 22 shield on the first sign.

The reduction in the rates may be partially attributed to these changes, but they may also be partially attributed to (a) the greater attention value from the uniqueness of the signs within the I-287 system, and (b) the motorist's feeling that greater importance has been put on his needs at this particular location.

#### Diagrammatic Signs in Two Seasons

A significant increase at the 95% level of confidence was found in the rates of unusual maneuvers after no changes were made to the diagrammatic signs.

The higher rate may be partially attributed to the fact that the two sets of data compared were collected in unlike seasons and partially attributed to effects on the comparison brought about by other causes allowed to operate during the relatively long span of time (six months) between collection periods.

#### Diagrammatic Signs vs. Diagrammatic Signs with Lane Lines

A significant reduction at the 95% level of confidence in the rates of unusual maneuvers was found after lane lines were added to the "diagrams."

A higher rate could have been expected, assuming that June has a higher proportion of unfamiliar drivers than May.

#### DISCUSSION

Observation of the diagrammatic signs points out some apparent improvements over standard signing since the signs offer several added advantages to the motorist:

1. The exit directions are more clearly communicated at more advanced locations, as well as at the most advanced location, which is at the first sign.

2. The number of lanes for a movement can be communicated at the most advanced point. This may be done by displaying different arrow stem thicknesses and lane lines.

3. The destination and route number information is more meaningful because it is matched with the major diagrammatic components of the interchange on all signs. The motorist does not, therefore, have to infer the match in advance because this is done for him.

4. The driver's position relative to the exits within the interchange is more adequately communicated. Arrow stem connections and lengths show the choices left to the motorist at the sign locations.

5. The attention value of the diagrammatic signs in this study seems greater than the conventional signs, perhaps because the arrows add more white area.

Although a statistically significant reduction in the rate of unusual maneuvers was found after the diagrammatic signs were installed, an "ideal" application had not been made. Due to the restriction upon the study that the present structures be used, the following observations were made:

1. The sign at location No. 3 was not referenced on the lane line that divides exit from through movements. A more ideal placement -- 8 feet to the left and at a more advanced point -- was not possible because of the overhead structures wind-load capacity and its constructed position.

2. In the mind of the motorist the sign at location No. 5 does not entirely eliminate the possibility that its exit ramp may be farther down the highway. The sign may have been better placed over the exit ramp on a cantilever structure with its support on the outside of the ramp.

### RECOMMENDATIONS

It is recommended that further evaluation of diagrammatic signing under basic conditions be carried out for:

1. "Cloverleaf" geometry
2. "Diamond" geometry
3. Whole series of interchanges

Serious consideration should be made that new standards include the diagrammatic concept.

Additional studies at U.S. 22 should be made to learn more about the unusual maneuvers variable as a sign-value parameter and the factors that affect it.

### FUTURE PLANS

The Bureau of Safety and Traffic has proposed a more extensive study. The proposal includes the replacing of all the signs on I-287 from the New Jersey Turnpike through the interchange at I-78 (Figure 5). The proposed studies of ten ramps within this section would add more data on the diagrammatic concept and also answer the question of "uniqueness" of these signs within a standard system since all the interchanges would have diagrammatic signs. This means that by the time the unfamiliar northbound driver would arrive at U.S. 22 and other interchanges, the novelty of seeing diagrammatic signs would have worn off.

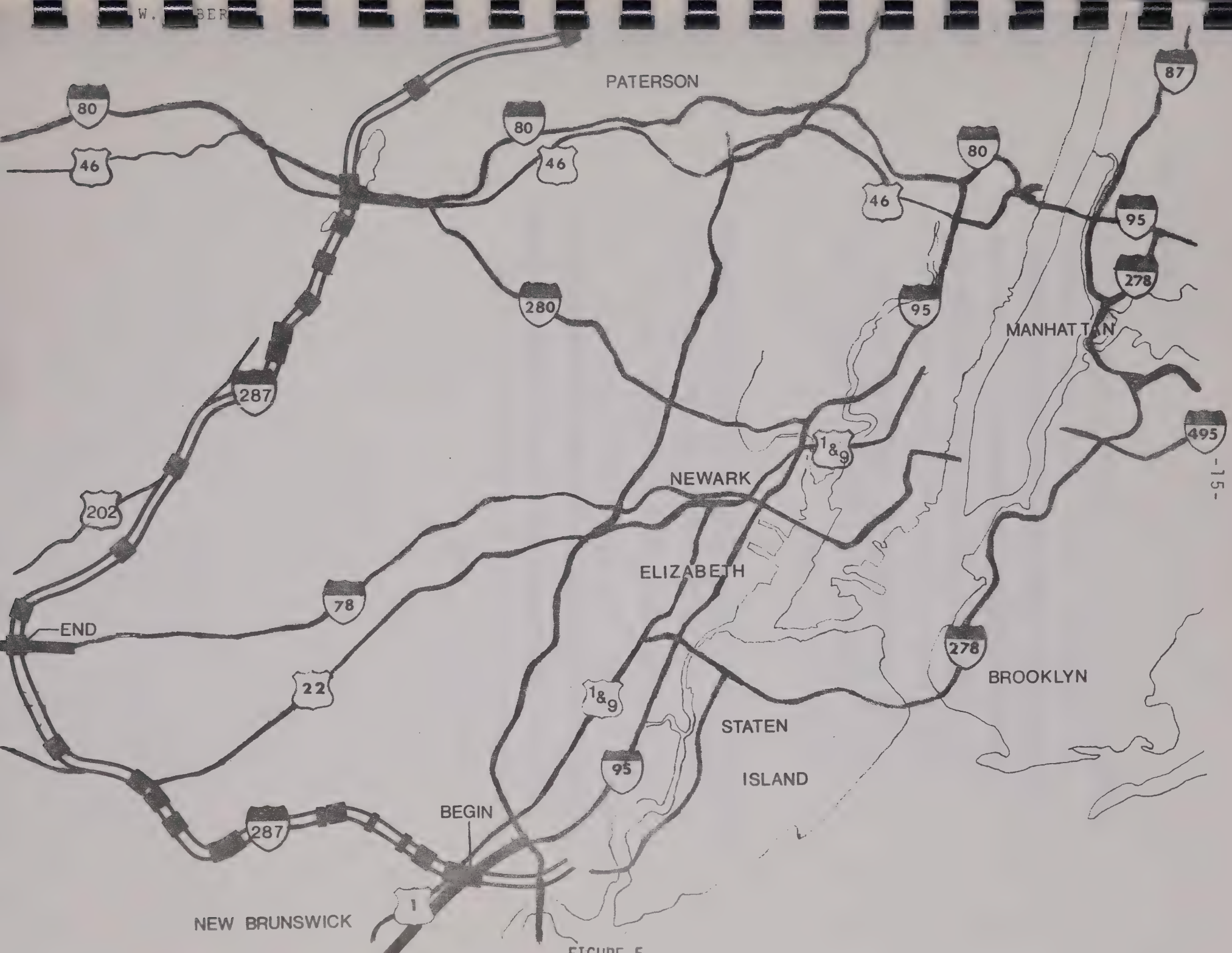


FIGURE 5

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2. Statistical Analysis in Psychology and Education, George A. Ferguson, McGraw-Hill Book Company, 1966, Lib. of Cong., Cat. Card No. 65-25541.
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Not published.
3. Development of Information Requirements and Transmission Techniques for Highway Users, G. J. Alexander, G. F. King, M. S. Warskow. Research Report Number 606-1, Diagnostic Studies of Highway Visual Communication Systems, Research Project Number HPR-2(108), Contract Number FH-11-7031, Texas Transportation Institute, 1969.



APPENDIX I

SIGN LOCATION PHOTOGRAPHS





No. 1



No. 3 and No. 4



No. 2



No. 5

MODIFIED SIGNS



No. 1



No. 3 and No. 4



No. 2



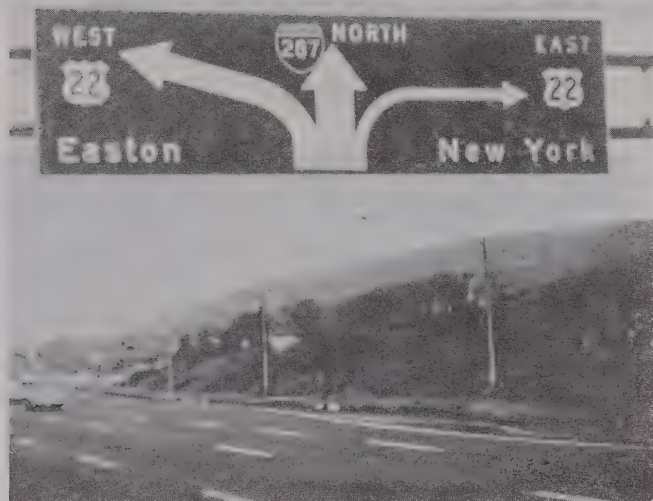
No. 5



No. 1



No. 3 and No. 4



No. 2



No. 5

DIAGRAMMATIC SIGNS WITH LANE LINES



No. 1



No. 3 and No. 4



No. 2



No. 5

## APPENDIX II

### UNUSUAL MANEUVERS RATE TABLES



Table 1  
ORIGINAL - UNMODIFIED SIGNS  
DATA SUMMARY

| DAY   | DATE   | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL <sup>2</sup> |      | VOLUME <sup>3</sup> |      | RATE |      |
|-------|--------|--------------|--------------|----------------------------------|------|------|------|---------------|------|--------------------|------|---------------------|------|------|------|
|       |        |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit               | Thru | Exit                | Thru | Exit | Thru |
|       |        |              |              | 3to2 <sup>1</sup>                | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |                    |      |                     |      |      |      |
| Mon.  | 7/7/69 | 2-3          | 2            | 11                               | 2    |      |      | 1             |      | 13                 | 1    | 395                 |      | .033 |      |
|       |        |              | 3+           | 0                                | 0    |      |      | 0             |      | 0                  | 1    | 25                  |      | .000 |      |
|       |        | 3-4          | 2            | 11                               | 1    |      |      |               |      | 12                 | 0    | 476                 |      | .025 |      |
|       |        |              | 3+           | 2                                | 0    |      |      |               |      | 2                  | 0    | 25                  |      | .080 |      |
|       |        | 4-5          | 2            | 10                               | 2    | 2    |      | 1             |      | 14                 | 2    | 662                 |      | .021 |      |
|       |        |              | 3+           | 0                                | 0    | 0    |      | 0             |      | 0                  | 0    | 50                  |      | .000 |      |
|       |        | 5-6          | 2            | 16                               | 1    |      |      | 2             | 1    | 17                 | 3    | 772                 |      | .022 |      |
|       |        |              | 3+           | 2                                | 0    |      |      | 0             | 0    | 2                  | 0    | 16                  |      | .125 |      |
|       |        | 6-7          | 2            | 5                                | 1    |      |      |               | 1    | 6                  | 1    | 452                 |      | .013 |      |
|       |        |              | 3+           | 1                                | 1    |      |      |               | 0    | 2                  | 0    | 56                  |      | .036 |      |
| Tues. | 7/8/69 | 2-3          | 2            | 7                                |      |      |      | 0             | 1    | 7                  | 1    | 409                 |      | .017 |      |
|       |        |              | 3+           | 1                                |      |      |      | 1             | 0    | 1                  | 1    | 4                   |      | .250 |      |
|       |        | 3-4          | 2            | 8                                | 4    | 1    |      | 1             |      | 13                 | 2    | 467                 |      | .028 |      |
|       |        |              | 3+           | 0                                | 1    | 0    |      | 0             |      | 1                  | 0    | 58                  |      | .017 |      |
|       |        | 4-5          | 2            | 17                               | 5    |      |      |               | 1    | 22                 | 1    | 764                 |      | .029 |      |
|       |        |              | 3+           | 3                                | 0    |      |      |               | 0    | 3                  | 0    | 57                  |      | .053 |      |
|       |        | 5-6          | 2            | 10                               | 3    |      |      | 1             | 1    | 13                 | 2    | 516                 |      | .025 |      |
|       |        |              | 3+           | 2                                | 0    |      |      | 0             | 0    | 2                  | 0    | 243                 |      | .008 |      |
|       |        | 6-7          | 2            | 13                               | 2    | 1    |      |               |      | 16                 | 0    | 541                 |      | .030 |      |
|       |        |              | 3+           | 1                                | 1    | 0    |      |               |      | 2                  | 0    | 22                  |      | .091 |      |
| Wed.  | 7/9/69 | 2-3          | 2            | 8                                | 5    |      |      |               |      | 13                 | 1    | 341                 |      | .038 |      |
|       |        |              | 3+           | 2                                | 1    |      |      |               |      | 3                  | 0    | 70                  |      | .043 |      |
|       |        | 3-4          | 2            | 15                               | 6    |      |      |               |      | 21                 | 0    | 437                 |      | .048 |      |
|       |        |              | 3+           | 1                                | 0    |      |      |               |      | 1                  | 0    | 71                  |      | .014 |      |
|       |        | 4-5          | 2            | 15                               | 4    |      |      | 2             |      | 19                 | 2    | 543                 |      | .035 |      |
|       |        |              | 3+           | 0                                | 0    |      |      | 1             |      | 0                  | 1    | 53                  |      | .000 |      |
|       |        | 5-6          | 2            | 18.0                             |      |      | 4.0  |               |      | 22.0               | 0    | 560                 |      | .039 |      |
|       |        |              | 3+           | 0                                |      |      | 0    |               |      | 0                  | 0    | 63                  |      | .000 |      |
|       |        | 6-7          | 2            | 21                               | 4    |      |      | 1             |      | 25                 | 1    | 555                 |      | .045 |      |
|       |        |              | 3+           | 0                                | 0    |      |      | 0             |      | 0                  | 0    | 23                  |      | .000 |      |

<sup>1</sup>Refer to Figure 1

<sup>2</sup>Sometimes totals reflect miscellaneous categories that are not shown

<sup>3</sup>Volumes were unavailable

Table 1 (Cont.)

| DAY    | DATE    | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL |      | VOLUME |      | RATE |      |
|--------|---------|--------------|--------------|----------------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|        |         |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|        |         |              |              | 3to2                             | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Thurs. | 7/10/69 | 2-3          | 2            | 18.0                             | 4.0  |      |      |               |      | 22    | 2    | 573    |      | .038 |      |
|        |         |              | 3+           | 4.0                              | 2.0  |      |      |               |      | 6     | 0    | 162    |      | .037 |      |
|        |         | 3-4          | 2            | 6                                |      |      |      | 2             |      | 6     | 2    | 495    |      | .012 |      |
|        |         |              | 3+           | 1                                |      |      |      | 0             |      | 1     | 0    | 29     |      | .034 |      |
|        |         | 4-5          | 2            | 11.8                             | 1.4  |      |      | 2.4           |      | 13.2  | 2.4  | 456    |      | .029 |      |
|        |         |              | 3+           | 1.2                              | 0    |      |      | 0             |      | 1.2   | 0    | 62     |      | .019 |      |
|        |         | 5-6          | 2            | 18                               | 2    |      |      | 1             |      | 20    | 1    | 506    |      | .040 |      |
|        |         |              | 3+           | 0                                | 0    |      |      | 0             |      | 0     | 0    | 50     |      | .000 |      |
|        |         | 6-7          | 2            | 10                               | 1    | 1    |      | 2             |      | 12    | 2    | 606    |      | .020 |      |
|        |         |              | 3+           | 1                                | 0    | 0    |      | 0             |      | 1     | 0    | 46     |      | .022 |      |
| Sat.   | 8/2/69  | 2-3          | 2            | 20                               | 4    | 2    | 1    |               |      | 29.7  | 0    | 450    |      | .066 |      |
|        |         |              | 3+           | 0                                | 0    | 0    | 0    |               |      | 0     | 0    | 5      |      | .000 |      |
|        |         | 3-4          | 2            | 20                               | 3    | 1    |      | 1             | 1    | 24    | 4    | 416    |      | .058 |      |
|        |         |              | 3+           | 0                                | 0    | 0    |      | 0             | 0    | 0     | 0    | 22     |      | .000 |      |
|        |         | 4-5          | 2            | 18                               | 2    | 1    |      |               | 2    | 21    | 2    | 389    |      | .054 |      |
|        |         |              | 3+           | 0                                | 0    | 0    |      |               | 0    | 0     | 0    | 21     |      | .000 |      |
|        |         | 5-6          | 2            | 27                               | 12   |      |      |               |      | 39    | 0    | 430    |      | .091 |      |
|        |         |              | 3+           | 1                                | 0    |      |      |               |      | 1     | 0    | 9      |      | .111 |      |
|        |         | 6-7          | 2            | 16                               | 7    | 1    |      | 1             |      | 24    | 1    | 388    |      | .062 |      |
|        |         |              | 3+           | 0                                | 0    | 0    |      | 0             |      | 0     | 0    | 16     |      | .000 |      |
| Sun.   | 8/3/69  | 2-3          | 2            | 33                               | 8    | 2    |      | 2             | 1    | 43    | 3    | 495    |      | .087 |      |
|        |         |              | 3+           | 0                                | 0    | 0    |      | 0             | 0    | 0     | 0    | 15     |      | .000 |      |
|        |         | 3-4          | 2            | 36                               | 6    |      |      |               |      | 42    | 6    | 411    |      | .102 |      |
|        |         |              | 3+           | 0                                | 0    |      |      |               |      | 1     | 0    | 4      |      | .250 |      |
|        |         | 4-5          | 2            | 29                               | 6    | 1    |      | 2             |      | 36    | 3    | 340    |      | .106 |      |
|        |         |              | 3+           | 1                                | 0    | 0    |      | 0             |      | 1     | 0    | 4      |      | .250 |      |
|        |         | 5-6          | 2            | 24                               | 5    | 2    |      | 3             |      | 31    | 3    | 347    |      | .089 |      |
|        |         |              | 3+           | 0                                | 0    | 0    |      | 0             |      | 0     | 0    | 0      |      | .000 |      |
|        |         | 6-7          | 2            | 14                               | 3    | 1    |      |               |      | 18    | 0    | 350    |      | .051 |      |
|        |         |              | 3+           | 0                                | 0    | 1    |      |               |      | 1     | 0    | 4      |      | .250 |      |

Table 2  
 PHASE I - BEFORE - MODIFIED SIGNS  
 DATA SUMMARY

| DAY    | DATE     | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |               |      |      | TOTAL |      | VOLUME |      | RATE |      |
|--------|----------|--------------|--------------|----------------------------------|------|------|---------------|------|------|-------|------|--------|------|------|------|
|        |          |              |              | Exiting Vehicles                 |      |      | Thru Vehicles |      |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|        |          |              |              | 3to2                             | 4to2 | 5to2 | 2to2          | 2to3 | 3to3 |       |      |        |      |      |      |
| Mon.   | 10/13/69 | 2-3          | 2            | 11                               |      | 1    |               | 1    |      | 12    | 1    | 390    | 256  | .031 | .004 |
|        |          |              | 3+           | 2                                |      | 0    |               | 0    |      | 2     | 0    | 34     | 132  | .059 | .000 |
|        |          | 3-4          | 2            | 12                               |      |      | 1             | 1    |      | 13    | 1    | 555    | 343  | .023 | .003 |
|        |          |              | 3+           | 1                                |      |      | 0             | 0    |      | 1     | 0    | 48     | 86   | .021 | .000 |
|        |          | 4-5          | 2            | 27                               | 2    |      |               | 1    |      | 29    | 1    | 713    | 578  | .041 | .002 |
|        |          |              | 3+           | 1                                | 0    |      |               | 0    |      | 1     | 0    | 54     | 86   | .019 | .000 |
|        |          | 5-6          | 2            | 16                               |      |      |               |      |      | 16    | 0    | 725    | 657  | .022 | .000 |
|        |          |              | 3+           | 0                                |      |      |               |      |      | 0     | 0    | 15     | 42   | .000 | .000 |
| Tues.  | 10/14/69 | 2-3          | 2            | 8                                | 1    |      |               | 1    |      | 9     | 1    | 303    | 280  | .030 | .004 |
|        |          |              | 3+           | 0                                | 0    |      |               | 0    |      | 0     | 0    | 71     | 103  | .000 | .000 |
|        |          | 3-4          | 2            | 14                               | 1    |      |               | 3    |      | 15    | 3    | 535    | 330  | .028 | .009 |
|        |          |              | 3+           | 1                                | 0    |      |               | 0    |      | 1     | 0    | 40     | 122  | .025 | .000 |
|        |          | 4-5          | 2            | 21                               | 1    | 1    |               |      | 1    | 23    | 1    | 742    | 593  | .031 | .002 |
|        |          |              | 3+           | 2                                | 0    | 0    |               |      | 0    | 2     | 0    | 64     | 113  | .031 | .000 |
|        |          | 5-6          | 2            | 19                               | 4    |      |               | 2    |      | 23    | 2    | 788    | 633  | .029 | .003 |
|        |          |              | 3+           | 0                                | 0    |      |               | 0    |      | 0     | 0    | 33     | 58   | .000 | .000 |
| Wed.   | 10/8/69  | 2-3          | 2            | 13                               |      |      |               |      |      | 13    | 0    | 365    | 224  | .036 | .000 |
|        |          |              | 3+           | 3                                |      |      |               |      |      | 3     | 0    | 45     | 121  | .067 | .000 |
|        |          | 3-4          | 2            | 11                               | 1    |      |               |      |      | 12    | 0    | 546    | 304  | .022 | .000 |
|        |          |              | 3+           | 2                                | 0    |      |               |      |      | 2     | 0    | 89     | 118  | .022 | .000 |
|        |          | 5-6          | 2            | 15                               | 2    |      |               |      |      | 17    | 0    | 792    | 602  | .021 | .000 |
|        |          |              | 3+           | 0                                | 0    |      |               |      |      | 0     | 0    | 25     | 115  | .000 | .000 |
| Thurs. | 10/9/69  | 2-3          | 2            | 13                               | 1    | 1    |               |      |      | 15    | 0    | 349    | 201  | .043 | .000 |
|        |          |              | 3+           | 1                                | 2    | 0    |               |      |      | 3     | 0    | 43     | 108  | .070 | .000 |
|        |          | 3-4          | 2            | 12                               | 7    | 1    |               | 2    |      | 20    | 2    | 505    | 381  | .040 | .005 |
|        |          |              | 3+           | 2                                | 0    | 0    |               | 0    |      | 2     | 0    | 44     | 108  | .045 | .000 |
|        |          | 4-5          | 2            | 28                               | 1    | 1    |               |      |      | 30    | 0    | 730    | 691  | .041 | .000 |
|        |          |              | 3+           | 1                                | 0    | 0    |               |      |      | 1     | 0    | 47     | 44   | .021 | .000 |
|        |          | 5-6          | 2            | 12                               | 5    | 1    |               |      |      | 18    | 0    | 937    | 628  | .019 | .000 |
|        |          |              | 3+           | 0                                | 1    | 0    |               |      |      | 1     | 0    | 19     | 55   | .053 | .000 |

Table 2 (Cont.)

| DAY  | DATE     | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL |      | VOLUME |      | RATE |      |
|------|----------|--------------|--------------|----------------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|      |          |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|      |          |              |              | 3to2                             | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Fri. | 10/10/69 | 2-3          | 2            | 9                                | 1    |      | 1    |               | 1    | 11    | 1    | 386    | 356  | .028 | .003 |
|      |          |              | 3+           | 1                                | 0    |      | 0    |               | 0    | 1     | 0    | 74     | 132  | .014 | .000 |
|      |          | 3-4          | 2            | 14                               | 1    | 1    |      |               |      | 16    | 0    | 609    | 682  | .026 | .000 |
|      |          |              | 3+           | 2                                | 0    | 0    |      |               |      | 2     | 0    | 19     | 102  | .105 | .000 |
|      |          | 4-5          | 2            | 16                               |      |      |      | 2             |      | 16    | 2    | 842    | 1043 | .019 | .002 |
|      |          |              | 3+           | 1                                |      |      |      | 0             |      | 1     | 0    | 26     | 91   | .038 | .000 |
|      |          | 5-6          | 2            | 30                               | 5    | 1    |      | 5             |      | 36    | 5    | 983    | 1111 | .037 | .005 |
|      |          |              | 3+           | 1                                | 0    | 0    |      | 0             |      | 1     | 0    | 30     | 71   | .033 | .000 |
| Sat. | 10/11/69 | 2-3          | 2            | 17                               | 5    | 1    | 1    | 1             |      | 24    | 1    | 423    | 411  | .057 | .002 |
|      |          |              | 3+           | 1                                | 0    | 0    | 0    | 0             |      | 1     | 0    | 4      | 31   | .250 | .000 |
|      |          | 3-4          | 2            |                                  |      |      |      |               |      |       |      |        |      |      |      |
|      |          |              | 3+           |                                  |      |      |      |               |      |       |      |        |      |      |      |
|      |          | 4-5          | 2            |                                  |      |      |      |               |      |       |      |        |      |      |      |
|      |          |              | 3+           |                                  |      |      |      |               |      |       |      |        |      |      |      |
|      |          | 5-6          | 2            |                                  |      |      |      |               |      |       |      |        |      |      |      |
|      |          |              | 3+           |                                  |      |      |      |               |      |       |      |        |      |      |      |
| Sun. | 10/12/69 | 2-3          | 2            | 36                               | 14   |      |      | 4             |      | 50    | 4    | 632    | 801  | .079 | .005 |
|      |          |              | 3+           | 0                                | 0    |      |      | 0             |      | 0     | 0    | 0      | 0    | .000 | .000 |
|      |          | 3-4          | 2            | 35                               | 7    |      |      | 7             | 1    | 42    | 8    | 454    | 560  | .093 | .014 |
|      |          |              | 3+           | 0                                | 0    |      |      | 0             | 0    | 0     | 0    | 0      | 6    | .000 | .000 |
|      |          | 4-5          | 2            | 26                               | 5    |      |      |               | 1    | 31    | 1    | 383    | 473  | .081 | .002 |
|      |          |              | 3+           | 0                                | 1    |      |      |               | 0    | 1     | 0    | 12     | 10   | .083 | .000 |
|      |          | 5-6          | 2            | 26                               | 5    |      |      | 2             |      | 31    | 3    | 337    | 504  | .092 | .006 |
|      |          |              | 3+           | 0                                | 0    |      |      | 0             |      | 0     | 0    | 7      | 16   | .000 | .000 |

Table 3  
PHASE I - AFTER - DIAGRAMMATIC SIGNS  
DATA SUMMARY

| DAY    | DATE     | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL |      | VOLUME |      | RATE |      |
|--------|----------|--------------|--------------|----------------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|        |          |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|        |          |              |              | 3to2                             | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Mon.   | 11/24/69 | 2-3          | 2            | 15                               |      |      |      |               |      | 15    | 0    | 383    | 297  | .039 | .000 |
|        |          |              | 3+           | 1                                |      |      |      |               |      | 1     | 0    | 20     | 147  | .050 | .000 |
|        |          | 3-4          | 2            | 12                               | 2    |      |      | 1             |      | 14    | 1    | 482    | 325  | .029 | .003 |
|        |          |              | 3+           | 2                                | 0    |      |      | 0             |      | 2     | 0    | 85     | 168  | .024 | .000 |
|        |          | 4-5          | 2            | 10.3                             |      |      |      |               |      | 10.3  | 0    | 605    | 584  | .017 | .000 |
|        |          |              | 3+           | 1.7                              |      |      |      |               |      | 1.7   | 0    | 115    | 174  | .015 | .000 |
| Tues.  | 11/11/69 | 2-3          | 2            | 16                               | 3    |      |      | 1             |      | 19    | 1    | 457    | 248  | .042 | .004 |
|        |          |              | 3+           | 1                                | 0    |      |      | 0             |      | 1     | 0    | 40     | 111  | .025 | .000 |
|        |          | 3-4          | 2            | 18                               |      |      |      | 1             |      | 18    | 1    | 778    | 344  | .023 | .003 |
|        |          |              | 3+           | 3                                |      |      |      | 0             |      | 3     | 0    | 24     | 97   | .125 | .000 |
|        |          | 4-5          | 2            | 12.0                             |      |      |      |               |      | 12.0  | 0    | 489    | 511  | .025 | .000 |
|        |          |              | 3+           | 2.2                              |      |      |      |               |      | 2.2   | 0    | 163    | 112  | .013 | .000 |
| Wed.   | 11/12/69 | 2-3          | 2            | 9                                | 1    |      |      |               |      | 10    | 0    | 451    | 344  | .022 | .000 |
|        |          |              | 3+           | 2                                | 0    |      |      |               |      | 2     | 0    | 79     | 134  | .025 | .000 |
|        |          | 3-4          | 2            | 14                               |      |      |      | 1             |      | 14    | 1    | 615    | 544  | .023 | .002 |
|        |          |              | 3+           | 4                                |      |      |      | 1             |      | 4     | 1    | 100    | 182  | .040 | .005 |
|        |          | 4-5          | 2            |                                  |      |      |      |               |      |       |      |        |      |      |      |
|        |          |              | 3+           |                                  |      |      |      |               |      |       |      |        |      |      |      |
| Thurs. | 11/20/69 | 2-3          | 2            | 11                               | 1    |      |      |               |      | 12    | 0    | 383    | 267  | .031 | .000 |
|        |          |              | 3+           | 4                                | 1    |      |      |               |      | 5     | 0    | 29     | 126  | .172 | .000 |
|        |          | 3-4          | 2            | 10                               | 2    |      |      |               |      | 12    | 0    | 485    | 363  | .025 | .000 |
|        |          |              | 3+           | 2                                | 0    |      |      |               |      | 2     | 0    | 79     | 103  | .025 | .000 |
|        |          | 4-5          | 2            | 18                               | 1.2  |      |      |               |      | 19.2  | 0    | 719    | 562  | .027 | .000 |
|        |          |              | 3+           | 1.2                              | 1.2  |      |      |               |      | 2.4   | 0    | 89     | 150  | .027 | .000 |

Table 3 (Cont.)

| DAY  | DATE     | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL |      | VOLUME |      | RATE |      |
|------|----------|--------------|--------------|----------------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|      |          |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|      |          |              |              | 3to2                             | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Fri. | 11/14/69 | 2-3          | 2            | 7                                |      |      |      | 2             |      | 7     | 2    | 370    | 248  | .019 | .008 |
|      |          |              | 3+           | 0                                |      |      |      | 0             |      | 0     | 0    | 51     | 111  | .000 | .000 |
|      |          | 3-4          | 2            | 8.0                              |      |      |      |               |      | 8.0   | 0    | 572    | 485  | .014 | .000 |
|      |          |              | 3+           | 2.7                              |      |      |      |               |      | 2.7   | 0    | 43     | 61   | .063 | .000 |
|      |          | 4-5          | 2            | 17                               | 2    |      |      | 2             |      | 19    | 2    | 771    | 685  | .025 | .003 |
|      |          |              | 3+           | 2                                | 0    |      |      | 1             |      | 2     | 1    | 76     | 140  | .026 | .007 |
| Sat. | 11/22/69 | 2-3          | 2            | 15                               | 4    | 1    |      | 1             |      | 20    | 1    | 465    | 389  | .043 | .003 |
|      |          |              | 3+           | 0                                | 0    | 0    |      | 0             |      | 0     | 0    | 30     | 38   | .000 | .000 |
| Sun. | 11/23/69 | 2-3          | 2            | 35                               | 2    |      |      |               | 2    | 37    | 2    | 628    | 667  | .059 | .003 |
|      |          |              | 3+           | 0                                | 0    |      |      |               | 0    | 0     | 0    | 0      | 28   | .000 | .000 |
|      |          | 3-4          | 2            | 42                               | 1    |      |      | 1             | 1    | 43    | 2    | 470    | 490  | .091 | .004 |
|      |          |              | 3+           | 1                                | 0    |      |      | 0             | 0    | 1     | 0    | 5      | 5    | .200 | .000 |
|      |          | 4-5          | 2            | 8.7                              |      |      |      |               | 1.1  | 8.7   | 1.1  | 327    | 410  | .027 | .003 |
|      |          |              | 3+           | 0                                |      |      |      |               | 0    | 0     | 0    | 3      | 8    | .000 | .000 |

Table 4  
 PHASE II - BEFORE - DIAGRAMMATIC SIGNS  
 DATA SUMMARY

| DAY    | DATE    | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL |      | VOLUME |      | RATE |      |
|--------|---------|--------------|--------------|----------------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|        |         |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|        |         |              |              | 3to2                             | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Mon.   | 5/11/70 | 2-3          | 2            | 15                               | 1    |      |      |               |      | 16    |      | 274    | 207  | .058 | .000 |
|        |         |              | 3+           | 5                                |      |      |      |               |      | 5     |      | 87     | 111  | .057 | .000 |
|        |         | 3-4          | 2            | 25                               |      |      |      | 1             |      | 25    | 1    | 373    | 230  | .067 | .004 |
|        |         |              | 3+           | 7                                |      |      |      |               |      | 7     |      | 111    | 76   | .063 |      |
|        |         | 4-5          | 2            | 36                               | 2    |      |      | 1             |      | 38    | 1    | 464    | 460  | .082 | .002 |
|        |         |              | 3+           | 1                                |      |      |      |               |      | 1     |      | 52     | 108  | .019 |      |
| Tues.  | 5/12/70 | 2-3          | 2            | 16                               | 2    |      |      |               |      | 18    |      | 271    | 163  | .066 | .000 |
|        |         |              | 3+           | 5                                |      | 1    |      |               |      | 6     |      | 68     | 67   | .088 |      |
|        |         | 3-4          | 2            | 28                               | 2    |      |      |               |      | 30    |      | 478    | 208  | .063 | .000 |
|        |         |              | 3+           | 3                                |      |      |      |               |      | 3     |      | 53     | 103  | .057 |      |
|        |         | 4-5          | 2            | 39                               | 1    |      |      | 3             |      | 40    | 3    | 692    | 399  | .058 | .008 |
|        |         |              | 3+           | 4                                |      |      |      |               |      | 4     |      | 85     | 100  | .047 |      |
| Wed.   | 5/13/70 | 2-3          | 2            | 31                               | 1    |      |      | 1             |      | 32    | 1    | 334    | 237  | .096 | .004 |
|        |         |              | 3+           | 3                                |      |      |      |               |      | 3     |      | 54     | 101  | .056 |      |
|        |         | 3-4          | 2            | 29                               | 4    |      |      |               | 1    | 33    | 1    | 465    | 277  | .071 | .004 |
|        |         |              | 3+           | 2                                |      |      |      |               |      | 2     |      | 40     | 125  | .050 |      |
|        |         | 4-5          | 2            | 37                               | 3    |      |      | 3             |      | 40    | 3    | 757    | 498  | .053 | .006 |
|        |         |              | 3+           | 2                                |      |      |      |               |      | 2     |      | 23     | 68   | .087 |      |
| Thurs. | 5/14/70 | 2-3          | 2            | 9                                | 3    |      |      | 2             |      | 12    | 2    | 267    | 269  | .045 | .007 |
|        |         |              | 3+           | 3                                | 0    |      |      | 0             |      | 3     | 0    | 58     | 151  | .052 | .000 |
|        |         | 3-4          | 2            | 25                               | 3    |      |      | 2             |      | 28    | 2    | 409    | 407  | .068 | .005 |
|        |         |              | 3+           | 4                                | 0    |      |      | 0             |      | 4     | 0    | 67     | 143  | .060 | .000 |
|        |         | 4-5          | 2            | 27                               | 0    |      |      | 4             |      | 27    | 4    | 579    | 609  | .047 | .007 |
|        |         |              | 3+           | 0                                | 1    |      |      | 0             |      | 0     | 0    | 79     | 143  | .000 | .000 |

Table 4 (Cont.)

| DAY  | DATE    | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL |      | VOLUME |      | RATE |      |
|------|---------|--------------|--------------|----------------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|      |         |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|      |         |              |              | 3to2                             | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Fri. | 5/15/70 | 2-3          | 2            | 25                               | 3    |      |      |               |      | 28    | 0    | 337    | 380  | .083 | .000 |
|      |         |              | 3+           | 2                                | 0    |      |      |               |      | 2     | 0    | 64     | 148  | .031 | .000 |
|      |         | 3-4          | 2            | 12.5                             |      |      |      | 5             |      | 12.5  | 5    | 538    | 588  | .023 | .009 |
|      |         |              | 3+           | 0                                |      |      |      | 0             |      | 0     | 0    | 28     | 104  | .000 | .000 |
|      |         | 4-5          | 2            | 36                               | 1    | 1    |      | 3             |      | 38    | 3    | 629    | 908  | .060 | .003 |
|      |         |              | 3+           | 3                                | 0    | 0    |      | 0             |      | 3     | 0    | 120    | 148  | .025 | .000 |
| Sat. | 5/16/70 | 2-3          | 2            | 24                               | 2    | 1    |      | 1             |      | 27    | 1    | 344    | 404  | .078 | .002 |
|      |         |              | 3+           | 0                                | 0    | 0    |      | 0             |      | 0     | 0    | 11     | 45   | .000 | .000 |
|      |         | 3-4          | 2            | 28                               | 5    |      |      | 1             |      | 33    | 1    | 373    | 410  | .088 | .002 |
|      |         |              | 3+           | 3                                | 0    |      |      | 0             |      | 3     | 0    | 4      | 17   | .750 | .000 |
|      |         | 4-5          | 2            | 23                               | 2    |      |      | 2             |      | 25    | 2    | 415    | 390  | .060 | .005 |
|      |         |              | 3+           | 0                                | 0    |      |      | 0             |      | 0     | 0    | 4      | 21   | .000 | .000 |
| Sun. | 5/17/70 | 2-3          | 2            | DATA NOT TAKEN                   |      |      |      |               |      |       |      |        |      |      |      |
|      |         |              | 3+           |                                  |      |      |      |               |      |       |      |        |      |      |      |
|      |         | 3-4          | 2            | 26                               | 1    |      |      |               |      | 27    | 0    | 387    | 562  | .070 | .000 |
|      |         |              | 3+           | 1                                | 0    |      |      |               |      | 1     | 0    | 8      | 23   | .125 | .000 |
|      |         | 4-5          | 2            | 20                               | 2    |      |      | 7             | 1    | 22    | 8    | 342    | 526  | .064 | .015 |
|      |         |              | 3+           | 1                                | 0    |      |      | 0             | 0    | 1     | 0    | 3      | 16   | .033 | .000 |

Table 5  
 PHASE II - AFTER - DIAGRAMMATIC SIGNS WITH LANE LINES  
 DATA SUMMARY

| DAY   | DATE    | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL |      |      |      | MANEUVERS     |      | TOTAL |      | VOLUME |      | RATE |      |
|-------|---------|--------------|--------------|------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|       |         |              |              | Exiting Vehicles       |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|       |         |              |              | 3to2                   | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Mon.  | 6/29/70 | 2-3          | 2            | 17                     | 1    |      |      | 3             |      | 18    | 3    | 317    | 214  | .057 | .014 |
|       |         |              | 3+           | 2                      | 1    |      |      | 0             |      | 3     | 0    | 56     | 83   | .054 | .000 |
|       |         | 3-4          | 2            | 13                     | 0    |      |      | 5             |      | 13    | 5    | 396    | 236  | .033 | .080 |
|       |         |              | 3+           | 5                      | 1    |      |      | 0             |      | 6     | 0    | 75     | 117  | .080 | .000 |
|       |         | 4-5          | 2            | 32                     | 1    |      |      | 1             |      | 33    | 1    | 626    | 319  | .053 | .000 |
|       |         |              | 3+           | 3                      | 0    |      |      | 1             |      | 3     | 1    | 62     | 90   | .048 | .003 |
| Tues. | 6/23/70 | 2-3          | 2            | 14                     | 0    |      |      |               |      | 14    | 0    | 320    | 212  | .044 | .000 |
|       |         |              | 3+           | 3                      | 1    |      |      |               |      | 4     | 0    | 39     | 153  | .103 | .000 |
|       |         | 3-4          | 2            | 15                     | 2    |      |      | 2             |      | 17    | 2    | 421    | 246  | .040 | .008 |
|       |         |              | 3+           | 3                      | 0    |      |      | 0             |      | 3     | 0    | 80     | 158  | .038 | .000 |
|       |         | 4-5          | 2            | 17                     |      |      |      | 1             |      | 17    | 1    | 641    | 615  | .027 | .002 |
|       |         |              | 3+           | 4                      |      |      |      | 0             |      | 4     | 0    | 71     | 154  | .056 | .000 |
| Wed.  | 6/24/70 | 2-3          | 2            | 20                     | 4    |      |      | 1             |      | 24    | 1    | 308    | 222  | .078 | .005 |
|       |         |              | 3+           | 1                      | 0    |      |      | 0             |      | 1     | 0    | 34     | 115  | .029 | .000 |
|       |         | 3-4          | 2            | 20                     | 2    | 1    |      | 1             |      | 23    | 1    | 499    | 243  | .046 | .004 |
|       |         |              | 3+           | 4                      | 0    | 0    |      | 0             |      | 4     | 0    | 49     | 95   | .082 | .000 |
|       |         | 4-5          | 2            | 23                     |      |      |      | 1             |      | 23    | 1    | 627    | 457  | .037 | .002 |
|       |         |              | 3+           | 0                      |      |      |      | 0             |      | 0     | 0    | 55     | 51   | .000 | .000 |
| Thur. | 6/25/70 | 2-3          | 2            | 6                      |      |      |      |               |      | 6     | 0    | 277    | 216  | .022 | .000 |
|       |         |              | 3+           | 3                      |      |      |      |               |      | 3     | 0    | 53     | 92   | .057 | .000 |
|       |         | 3-4          | 2            | 17                     |      |      |      | 3             |      | 17    | 3    | 472    | 261  | .036 | .011 |
|       |         |              | 3+           | 6                      |      |      |      | 0             |      | 6     | 0    | 52     | 82   | .115 | .000 |
|       |         | 4-5          | 2            | 26                     | 2    |      |      | 1             | 1    | 28    | 1    | 662    | 365  | .042 | .003 |
|       |         |              | 3+           | 2                      | 0    |      |      | 0             | 0    | 2     | 0    | 35     | 80   | .057 | .000 |

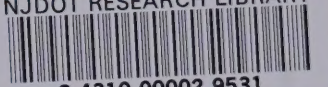
Table 5 (Cont.)

| DAY  | DATE    | HOUR<br>P.M. | AXLES<br>NO. | LANE CHANGE OF UNUSUAL MANEUVERS |      |      |      |               |      | TOTAL |      | VOLUME |      | RATE |      |
|------|---------|--------------|--------------|----------------------------------|------|------|------|---------------|------|-------|------|--------|------|------|------|
|      |         |              |              | Exiting Vehicles                 |      |      |      | Thru Vehicles |      | Exit  | Thru | Exit   | Thru | Exit | Thru |
|      |         |              |              | 3to2                             | 4to2 | 5to2 | 2to2 | 2to3          | 3to3 |       |      |        |      |      |      |
| Fri. | 6/26/70 | 2-3          | 2            | 14                               |      |      |      |               |      | 14    | 0    | 287    | 385  | .049 | .000 |
|      |         |              | 3+           | 2                                |      |      |      |               |      | 2     | 0    | 55     | 150  | .036 | .000 |
|      |         | 3-4          | 2            | 9                                | 3    | 1    |      | 1             |      | 13    | 1    | 561    | 590  | .023 | .002 |
|      |         |              | 3+           | 1                                | 0    | 0    |      | 0             |      | 1     | 0    | 29     | 104  | .034 | .000 |
|      |         | 4-5          | 2            |                                  |      |      |      |               |      |       |      |        |      |      |      |
|      |         |              | 3+           |                                  |      |      |      |               |      |       |      |        |      |      |      |
| Sat. | 6/27/70 | 2-3          | 2            | 25                               | 1    | 1    |      |               |      | 27    | 0    | 407    | 526  | .066 | .000 |
|      |         |              | 3+           | 0                                | 0    | 0    |      |               |      | 0     | 0    | 13     | 28   | .000 | .000 |
|      |         | 3-4          | 2            | 34                               | 3    | 1    |      | 2             | 1    | 38    | 3    | 404    | 457  | .094 | .007 |
|      |         |              | 3+           | 0                                | 0    | 0    |      | 0             | 0    | 0     | 0    | 13     | 29   | .000 | .000 |
|      |         | 4-5          | 2            | 22                               | 2    | 1    |      | 2             |      | 25    | 2    | 434    | 483  | .058 | .004 |
|      |         |              | 3+           | 0                                | 0    | 0    |      | 0             |      | 0     | 0    | 9      | 42   | .000 | .000 |
| Sun. | 6/28/70 | 2-3          | 2            | 40                               | 2    |      |      | 3             |      | 42    | 3    | 392    | 420  | .107 | .007 |
|      |         |              | 3+           | 0                                | 0    |      |      | 0             |      | 0     | 0    | 4      | 13   | .000 | .000 |
|      |         | 3-4          | 2            | 29                               | 2    | 2    |      | 3             | 3    | 33    | 6    | 398    | 373  | .083 | .002 |
|      |         |              | 3+           | 1                                | 0    | 0    |      | 0             | 0    | 1     | 0    | 1      | 29   | .000 | .000 |
|      |         | 4-5          | 2            | 31                               | 3    | 1    |      | 3             |      | 35    | 3    | 321    | 350  | .109 | .009 |
|      |         |              | 3+           | 2                                | 0    | 1    |      | 0             |      | 3     | 0    | 17     | 35   | .176 | .000 |





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